



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,073	11/25/2003	Don M. Coates	S-100,587	8620
35068	7590	02/09/2005	EXAMINER	
UNIVERSITY OF CALIFORNIA LOS ALAMOS NATIONAL LABORATORY P.O. BOX 1663, MS A187 LOS ALAMOS, NM 87545			AU, SCOTT D	
			ART UNIT	PAPER NUMBER
			2635	

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/723,073

Applicant(s)

COATES ET AL.

Examiner

Scott Au

Art Unit

2635

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 112503.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

The application of Coates et al. for an "Identification coding schemes for modulated reflectance systems" filed November 25, 2003 has been examined.

Claims 1-18 are pending.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, ^{limitations of} the claims 2 and 6 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will

Art Unit: 2635

be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Drawings

New corrected drawings in compliance with 37 CFR 1.121 (d) are required in this application because referring to Figures 4A-C disclose on page 6 paragraph 2 the components being described does not match accordingly to the Figures and also Figure 4C is missing from the drawings. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 14, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee, Jr. et al. (US# 5,731,754).

Referring to claim 1, Lee, Jr. et al. disclose an identifying coding apparatus employing modulated reflectance technology comprising: a base station (80) (i.e. interrogator system) emitting a RF signal; a tag (18) (i.e. transponder), located remotely from said base station (80) (i.e. interrogator system), containing at least one antenna (36) (i.e. antenna) and a predetermined network of other passive circuit components (i.e. temperature and pressure sensors) for receiving said RF signal and reflecting back (i.e. backscattering is a form of signal reflecting to the interrogator) to said base station (80) (i.e. interrogator system) a modulated signal indicative of characteristics related to said tag (18) (i.e. transponder) (col. 5 line 16 to col. 6 line 56 and col. 7 lines 26-61).

Referring to claim 3, Lee, Jr. et al. disclose the identifying coding apparatus as described in claim 1, wherein said tag (18) (i.e. transponder) is configured as a label to be applied to an item (i.e. tire) of manufacture (i.e. see Figure 1-2 and 6).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee, Jr. et al. (US# 5,731,754) as applied to claim 1 above, and in further view of Pollack et al. (US# 5,181,975).

Referring to claim 5, Lee, Jr. et al. disclose the identifying coding apparatus as described in claim 1, wherein said at least one antenna (36) (i.e. antenna) and said predetermined other passive components (i.e. temperature and pressure sensors) are integrated onto said tag (18) (i.e. transponder) (col. 2 lines 3-15, col. 5 line 16 to col. 6 line 56 and col. 7 lines 26-61; see Figure 2-4 and 9).

However, Lee, Jr. et al. did not explicitly disclose the passive components are printed onto said tag.

In the same field of endeavor of tire monitoring system, Pollack et al. disclose the passive components (antennas 24 and 25, capacitor 68, and memory device) are printed onto said tag (i.e. transponder) (col. 1 line 13, col. 10 lines 24-27, col. 13 line 28, and col. 14 lines 36-38; see Figure 5).

One ordinary skill in the art understands that passive components are printed onto transponder of Pollack et al. is desirable in the tire monitoring device of Lee, Jr. et al. because Lee, Jr. et al. and Polloack et al. suggest integrated circuit of transponder implemented onto the tire for measuring tire condition. It is obvious that integrated circuit consists of printed components onto the broad.

Referring to claim 7, Lee, Jr. et al. in view of Pollack et al. disclose the identifying coding apparatus as described in claim 5, Lee, Jr. et al. disclose wherein said tag (18) (i.e. transponder) is configured as a label to be applied to an item (i.e. tire) of manufacture (i.e. see Figure 1-2 and 6).

Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee, Jr. et al. (US# 5,731,754) as applied to claim 3 above, and in further view of Magiawala et al. (US# 6,278,361).

Referring to claim 4, Lee, Jr. et al. disclose the apparatus of claim 3. Lee, Jr. et al. disclose wherein said label is situated inside a pneumatic tire, and contains a pressure sensor, a temperature sensor (col. 3 lines 1-25). However, Lee, Jr. et al. did not explicitly disclose a tire tread wear sensor.

In the same field of endeavor tire monitoring system, Magiawala et al. disclose a tire tread wear sensor (col. 4 lines 27-39) process by the microprocessor 14.

One of ordinary skill in the art understands that tire tread wear sensor of Magiawala et al. is desirable in the tire monitoring system of Lee, Jr. et al. because both Magiawala et al. and Lee, Jr. et al. suggest monitoring system applied to tire condition. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include tire tread wear sensor of Magiawala et al. in the tire monitoring system of Lee, Jr. et al. with the motivation for doing so would allow the vehicle to be driven safely.

Referring to claim 8, Lee, Jr. et al. disclose an apparatus in claim 3, claim 8 is equivalent to that of claim 4 addressed above, incorporated herein. Therefore, claim 8 is rejected for same reasons given with respected to claim 4.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee, Jr. et al. (US# 5,731,754) as applied to claim 1 above, and in further view of Katou (US# 6,359,56).

Referring to claim 15, Lee, Jr. et al. disclose the apparatus of claim 1. Lee, Jr. et al. disclose the signal is reflected. However, Lee, Jr. et al. did not explicitly disclose wherein said modulated reflected signal contains a binary code that identifies the particular user of the tag.

In the same field of endeavor of tire monitoring system, Katou disclose wherein said the transmitted data contains a binary code that identifies the particular user (col. 4 lines 19-40) of transmitter 3.

One of ordinary skill in the art understands that binary code that identifies the particular user of the tag of Katou is desirable in the tire monitoring system of Lee, Jr. et al. because Lee, Jr. et al. suggest the tire monitor monitoring the pressure and temperature of the tire (i.e. see Abstract) and Katou suggests the transmitted data from the transmitter 3 of the tire is included pressure data, temperature data and voltage data with each data consists of binary code of a predetermined number of bits in order for the controller to distinguish different types of data measurement (col. 4 lines 19-40).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Walsh (US# 5,995,006).

Referring to claim 1, Walsh discloses an identifying coding apparatus employing modulated reflectance technology comprising (col. 1 lines 6-12): a base station (i.e.

Art Unit: 2635

base station) emitting a RF signal; a tag (10) (i.e. tag), located remotely from said base station, containing at least one antenna (30) (i.e. antenna) and a predetermined network of other passive circuit components (22,26,28,29) (i.e. CPU, memory, control circuit, modem circuit) for receiving said RF signal and reflecting back to said base station a modulated signal indicative of characteristics related to said tag (10) (col. 2 lines 1-11, col. 2 line 50 to col. 3 line 16).

Referring to claim 5, Walsh discloses the apparatus of claim 1, wherein said at least one antenna and said predetermined other passive components are printed onto said tag (i.e. see Abstract and col. 3 lines 1-15).

Referring to claim 7, Walsh discloses the apparatus of claim 5, wherein said tag is configured as label to be applied to an item of manufacture (col. 1 lines 40-45).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 6 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walsh (US# 5,995,006) as applied to claim 1 above, and in further view of Giraldin et al. (US# 6,747,562).

Referring to claims 2 and 6, Walsh discloses the apparatus of claims 1 and 5. However, Walsh did not explicitly disclose wherein said tag is configured as a wrist strap to be worn by a user.

In the same field of endeavor of tag devices, Giraldin et al. disclose tag is configured as wrist strap to be worn by a user (col. 2 lines 35-46).

One ordinary skill in the art understands that tag is configured as a wrist strap to be worn by a user of Giraldin et al. is desirable in the transponder system of Walsh because both Walsh and Giraldin suggest tagging device attached to individual or object via radio transmission and reception (i.e. Walsh, col. 1 lines 36-50) and (i.e. Giraldin et al., col. 1 lines 40-50). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include tag device of Giraldin et al. in the transponder system of Walsh with the motivation for doing so would allow the individual or object with tag attach to be tracked.

Referring to claim 9, Walsh in view of Giraldin et al. disclose the apparatus of claim 1, Giraldin et al. disclose wherein said reflected modulated signals is used to determine location of said tag (col. 3 lines 44-58).

Referring to claim 10, Walsh in view of Giraldin et al. disclose the apparatus of claim 1, Giraldin et al. disclose wherein said reflected modulated signal is used to identify an entity to which said tag is associated (col. 3 lines 44-58).

Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walsh (US# 5,995,006) as applied to claim 1 above, and in further view of Chomet et al. (US# 3,624,631).

Referring to claims 11-12, Walsh discloses the apparatus of claim 1. However, Walsh did not explicitly disclose further comprising means for disabling operation of said tag.

In the same field of endeavor of Rf device, Chomet et al. disclose means for disabling operation of said tag (col. 2 lines 1-25) when the opened circuit exposed to a radio frequency above a pre-selected level.

One ordinary skill in the art understands that fusible link of Chomet et al. is desirable in the transponder communication system of Walsh because both Walsh and Chomet et al. disclose Rf tag or transponder devices attached to objects. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include fusible link of Chomet et al. in the transponder device of Lee, Jr. et al. with the motivation for doing so would allow the tag or transponder to deactivate.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walsh (US# 5,995,006) in view of Chomet et al. (US# 3,624,631) as applied to claim 11 above, and in further view of Wanted (US# 6,342,830).

Referring to claim 13, Walsh in view of Chomet et al. disclose the apparatus of claim 11. However, Walsh in view of Chomet et al. did not explicitly disclose wherein said means for disabling comprises breaking apart said tag.

In the same field of endeavor of tag system, Wanted et al. disclose means for disabling comprises breaking apart said tag (col. 5 lines 33-40).

One ordinary skill in the art understands that disabling comprises breaking apart said tag of Wanted et al. is desirable in the transponder system of Walsh in view of Chomet et al. because Chomet et al. suggest disabling the tag by having the fusible link which is opened allowing the circuit exposes to radio frequency above the pre-selected level (col. 2 lines 1-15) and Wanted et al. suggest disabling the tag by breaking apart the tag (col. 5 lines 33-40). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include disabling function of a tag of Wanted et al. in the transponder system of Walsh in view of Chomet et al. with the motivation for doing so would allow transponder to become disabled.

Referring to claim 14, Walsh disclose the apparatus of claim 1, claim 14 is equivalent to that of claim 13 addressed above, incorporated herein. Therefore, claim 14 is rejected for same reasons given with respected to claim 13.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walsh (US# 5,995,006) as applied to claim 1 above, and in further view of Heller et al. (US# 5,387,993).

Referring to claim 15, Walsh discloses the apparatus of claim 1. However, Walsh did not explicitly disclose wherein said modulated reflected signals contain a binary code that identifies the particular user of the tag.

In the same field of endeavor of communication system, Heller et al. disclose the modulated reflected signals contains a binary code that identifies the particular user of the tag (col. 6 lines 35-62).

One ordinary skill in the art understands binary code of Heller et al. is desirable in the tag communication system of Walsh because both Walsh and Heller et al. suggest tags attached to objects and manufacture products (i.e. see Walsh, col. 1 lines 36-50) and (i.e. see Heller et al., Abstract) in order to locate and track the items.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walsh (US# 5,995,006) view of Heller et al. (US# 5,387,993) as applied to claim 15 above, and in further view of Rodgers et al. (US# 6,351,215).

Referring to claim 16, Walsh in view of Heller et al. disclose the apparatus of claim 15 above. However, Walsh in view of Heller et al. did not explicitly disclose wherein said binary code results from said at least one antenna comprising two

antennas, a first of said two antennas being out of phase with a second of said two antennas.

In the same field of endeavor of tag communication system, Rodgers et al. disclose wherein said signal results from said at least one antenna comprising two antennas, a first of said two antennas being out of phase with a second of said two antennas (col. 13 lines 39-62) in order to have great signal strength.

One ordinary skill in the art understands that antennas being out of phase of Rodgers et al. are desirable in the communication system of Walsh in view of Heller et al. because Walsh and Heller et al. suggest interrogator tracks tags attached to objects and manufacture products (i.e. see Walsh col. 1 lines 36-50 and see Heller et al., Abstract) and Rodgers et al. suggest multiple antennas of tag attached to merchandise will provide additional signal strength from the reader (col. 1 lines 20-49 and col. 13 lines 39-50). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include signal results from said at least one antenna comprising two antennas, a first of said two antennas being out of phase with a second of said two antennas of Rodgers et al. in the tag system of Walsh in view of Heller et al. with the motivation for doing so would allow the adjustment of antennas result for better signal strength and also based upon the designer choice.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walsh (US# 5,995,006) view of Heller et al. (US# 5,387,993) as applied to claim 15 above, and in further view of Slaght (U# 3,321,756).

Referring to claim 17, Walsh in view of Heller et al. disclose the apparatus of claim 15 above. However, Walsh in view of Heller et al. did not explicitly disclose wherein said binary code results from time-delay circuits comprising combinations of inductances and capacitances.

In the same field of endeavor of communication system, Slaght discloses time-delay circuits comprising combinations of inductances and capacitances (col. 5 lines 59-68) respecting to the interrogation pulse.

One ordinary skill in the art understand that time delay circuit of Slaght is desirable in the tag device of Walsh in view of Heller et al. because Walsh and Heller et al. suggest the interrogator tracks tags attached to objects and manufacture products (i.e. see Walsh, col. 1 lines 36-50 and see Heller et al., Abstract) and Slatch also suggest passive transponder to be tracked and operable in response to the interrogation signals (col. 1 lines 10-30). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include time delay circuit of Slatch in the transponder device of Walsh in view of Heller et al. with the motivation for doing so would allow the transponder circuit to produce said pulse delayed in time with respect to said interrogation pulse.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walsh (US# 5,995,006) view of Heller et al. (US# 5,387,993) as applied to claim 15 above, and in further view of Hirata et al. (US# 5,247,305).

Referring to claim 18, Walsh in view of Heller et al. disclose the apparatus of claim 15 above. However, Walsh in view of Heller et al. did not explicitly disclose wherein said binary code results from varying impedances connected to said at least one antenna.

In the same field of endeavor of communication system, Hirata et al. disclose signal results from varying impedances connected to said at least one antenna (i.e. see Abstract).

One ordinary skill in the art understands signal results from varying impedances connected to said at least one antenna of Hirata et al. is desirable in the communicating system of Walsh in view of Heller et al. because Walsh and Heller et al. suggest the interrogator tracks tags attached to objects and manufacture products (i.e. see Walsh, col. 1 lines 36-50 and see Heller et al., Abstract) and Hirata et al. suggest transponder attached to movable object monitoring by the interrogator (A) (col. 3 lines 30-45). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include signal results from varying impedances connected to said at least one antenna of Hirata et al. in the communication system of Walsh in view of Heller et al. with the motivation for doing so would generate the identification information and for feeding the reply signal to the antenna.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wilson et al. (US# 6,662,091) disclose the reflected signal to the interrogator using backscatter techniques.

Sharpe et al. (US# 5,448,242) disclose backscattering signal from the interrogator via a modulated reflector.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Au whose telephone number is (571) 272-3063. The examiner can normally be reached on Mon-Fri, 8:30AM – 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached at (571) 272-3068. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-3906.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-305-3900.

Scott Au

MICHAEL HORABIK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

